

The Time Value of Money

Is a dollar always worth a dollar? It may seem like a silly question, but a dollar is not always worth a dollar. Sometimes it's worth more, sometimes less. How can that be? The value of a dollar changes dramatically depending on when you get it and what you do with it. So time is a critical variable in the exact value of a dollar. **Time value of money** refers to the relationship among time, money, and rate of interest.

Say you have \$100 today. If you keep it in your dresser drawer for a year, you will still have \$100 in a year. But in a year, \$100 may buy less than it does now because of **inflation**, which is a rise in the cost of goods and services over time. Inflation decreases the spending power of each dollar you have. (Do you remember what a candy bar cost when you were six years old?)

But say you put that \$100 into a savings account that pays 3 percent interest a year. Using the following formula for simple interest, a year later you will have \$103 because of earned interest:

Interest = Principal x interest rate x time

$$\text{\$3} = \text{\$100} \times .03 \times 1 \text{ year}$$

Earned interest is the payment you receive for allowing a financial institution or corporation to use your money. You may not realize it, but your bank doesn't keep every dollar you deposit on hand. It may lend some of that money to other bank customers or deposit it with a government bank for safekeeping. So the bank compensates you for that by paying you interest on your savings account.

Both of these examples demonstrate the time value of money and show how much its three elements—**time, money, and rate of interest**—can help you reach your financial goals. In short:

- 1 The more **money** you have to save or invest, the more money you are likely to earn.
- 2 The higher the **rate of interest** you earn, the more money you are likely to have.
- 3 The sooner you invest your money, the more **time** it has to make new money, making it likely that you could earn much more as a result.

Cool, huh? So regardless of how much or how little you have to save and invest, time is truly on your side, helping you make more money!

Now let's see how well you understand the compounding concept, as you complete Exercise 3B.



Exercise 3B:

The Power of Compounding

Let's assume you have \$10 you're ready to invest. Using the two interest rates in the table below, fill in the compound value of \$10 for each of the time periods listed.

For example, \$10 growing at 4% is worth \$10.40 after one year. For the second year, multiply \$10.40 by 4% and add the result to \$10.40, for a total of \$10.82.

Interest Rate	1 Year	2 Years	4 Years	6 Years
4%	\$10.40	\$10.82		
8%				